C LANG TEST-8 (POINTERS)

Total points 50/50

STUDENT NAME *

VIVA

✓ 1. A pointer is a variable that stores — * 1/1

○ A) Value of another variable

● B) Address of another variable ✓

○ C) Both value and address

○ D) None

✓ 2. The symbol used to declare a pointer variable is — * 1/1

○ A) &

● B) * ✓

○ C) #

○ D) @

✓ 3. The operator & is called — * 1/1

○ A) Value operator

● B) Address-of operator ✓

○ C) Reference operator

○ D) Multiply operator

✓ 4. operator * used with a pointer variable gives — * 1/1

○ A) Address stored in pointer

● B) Value stored at that address ✓

○ C) Address of pointer itself

○ D) None

✓ 5. Which of the following declares a pointer to integer correctly? * 1/1

○ A) int p;

● B) int *p; ✓

○ C) int &p;

○ D) pointer int p;

✓ 6.What is the output of this code? * 1/1

```
int x = 10;

int *p = &x;

printf("%d", *p);
```

● A) 10 ✓

○ B) Address of x

○ C) Garbage

○ D) Error

✓ 7. The expression p = &a; means — * 1/1

● A) Value of a assigned to p ✓

○ B) Address of a assigned to p

○ C) Address of p assigned to a

○ D) None

✓ 8. A pointer that does not point to any valid memory location is called — * 1/1

○ A) Void pointer

● B) NULL pointer ✓

○ C) Wild pointer

○ D) Dangling pointer

✓ 9. What value does a NULL pointer have? * 1/1

○ A) 1

● B) 0 ✓

○ C) -1

○ D) Garbage

✓ 10. Which header file defines NULL in C? * 1/1

○ A) stdlib.h

○ B) stdio.h

○ C) stddef.h

● D) All of these ✓

✓ 11. A pointer holding an address of a variable which has been deleted or deallocated is — * 1/1

○ A) NULL pointer

○ B) Wild pointer

● C) Dangling pointer ✓

○ D) Void pointer

✓ 12. Which pointer can point to any data type? * 1/1

○ A) Wild pointer

○ B) Null pointer

● C) Void pointer ✓

○ D) Function pointer

✓ 13. The size of any pointer variable in 32-bit compiler is — * 1/1

○ A) 2 bytes

● B) 4 bytes ✓

○ C) 8 bytes

○ D) Depends on data type

✓ 14.What is the output? * 1/1

```
int a = 5;

int *p = &a;

printf("%u", p);
```

○ A) 5

● B) Address of a ✓

○ C) Garbage

○ D) Compilation error

✓ 15. Which operator is used to access the value at the address pointed by a pointer? * 1/1

○ A) *

○ B) &

● C) -> ✓

○ D) %

✓ 16. Which of the following statements is correct? * 1/1

○ A) A pointer can hold an address of only int type

● B) A pointer can hold address of any data type if type-casted properly ✓

○ C) Pointer cannot be used for char

○ D) None

✓ 17. Pointer arithmetic is allowed on — * 1/1

○ A) void pointers

○ B) null pointers

● C) array pointers ✓

○ D) all of these

✓ 18. If p is a pointer to integer, then p++ increases its value by — * 1/1

○ A) 1

○ B) 2

● C) 4 (if int = 4 bytes) ✓

○ D) 8

✓ 19.What will this print? * 1/1

```
int a[3] = {10,20,30};

int *p = a;
printf("%d", *(p+2));
```

○ A) 10

○ B) 20

● C) 30 ✓

○ D) Garbage

✓ 20. The expression &*p is equivalent to — * 1/1

○ A) *p

○ B) &p

● C) p ✓

○ D) *&p

✓ 21.What is the output? * 1/1

```
int x = 5;

int *p = &x;

int **q = &p;

printf("%d", **q);
```

● A) 5 ✓

○ B) Address of x

○ C) Address of p

○ D) Error

✓ 22. A pointer to a pointer is also called — * 1/1

● A) Double pointer ✓

○ B) Pointer chain

○ C) Multi-pointer

○ D) None

✓ 23. Which of the following initializes a NULL pointer correctly? * 1/1

○ A) int *p = 0;

○ B) int *p = NULL;

● C) Both A and B ✓

○ D) None

✓ 24. Pointer arithmetic can only be performed on — * 1/1

○ A) Numeric data types

○ B) Arrays

● C) Same type pointers ✓

○ D) None

✓ 25.What will be the output? * 1/1

```
int x = 10, y = 20;

int *p = &x;

int *q = &y;

printf("%d", *p + *q);
```

○ A) 10

○ B) 20

● C) 30 ✓

○ D) Garbage

✓ 26. Which of the following is an invalid pointer declaration? * 1/1

○ A) int *p;

○ B) float *f;

● C) int *p, q; ✓

○ D) int *p, *q;

✓ 27. Which function is used to allocate memory dynamically? * 1/1

○ A) malloc()

○ B) calloc()

○ C) realloc()

● D) All of these ✓

✓ 28. . Which function is used to free allocated memory? * 1/1

○ A) delete()

○ B) remove()

● C) free() ✓

○ D) clear()

✓ 29. What is the return type of malloc()? * 1/1

● A) void * ✓

○ B) int *

○ C) char *

○ D) float *

✓ 30. The pointer to the first element of an array a is — * 1/1

● A) a ✓

○ B) &a

○ C) a[0]

○ D) &a[1]

✓ 31. The expression *(a+i) is equivalent to — * 1/1

● A) a[i] ✓

○ B) *(a+i+1)

○ C) a+i

○ D) *a[i]

✓ 32. A pointer to function is declared using — * 1/1

○ A) ()

○ B) []

● C) * ✓

○ D) ->

✓ 33. . What is the correct declaration of a pointer to a function returning int? *1/1

○ A) int *f();

● B) int (f)(); ✓

○ C) int f();

○ D) int f();

✓ 34. Pointers are mainly used in — * 1/1

○ A) Function arguments

○ B) Dynamic memory allocation

○ C) Arrays and strings

● D) All of these ✓

✓ 35. What is a wild pointer? * 1/1

○ A) Points to garbage

○ B) Points to NULL

○ C) Not initialized pointer

● D) Both A and C ✓

✓ 36. . Which pointer is safest to use? * 1/1

○ A) Wild pointer

● B) NULL pointer ✓

○ C) Dangling pointer

○ D) Void pointer

✓ 37. Which of the following is true about pointer comparison? * 1/1

○ A) Can compare any two pointers

● B) Can compare pointers pointing to same array ✓

○ C) Both

○ D) None

✓ 38. The value of a pointer variable is — * 1/1

○ A) Variable name

● B) Address ✓

○ C) Data type

○ D) Value stored

✓ 39. Pointers are used to implement — * 1/1

○ A) Arrays

○ B) Strings

○ C) Linked Lists

● D) All of these ✓

✓ 40.What will the following code print? * 1/1

```
int x = 10;

int *p = &x;

*p = 20;

printf("%d", x);
```

○ A) 10

● B) 20 ✓

○ C) Garbage

○ D) Error

✓ 41. Pointer increment depends on — * 1/1

● A) Data type size ✓

○ B) Value of variable

○ C) Type of compiler

○ D) OS

✓ 42.. What will be printed? * 1/1

```
int a[3] = {1,2,3};

int *p = a;
printf("%d", *(p++));
```

● A) 1 ✓

○ B) 2

○ C) 3

○ D) Garbage

✓ 43. Which of the following is NOT a valid pointer type? * 1/1

○ A) int *

○ B) float *

○ C) bool *

● D) string * ✓

✓ 44.What does this code print? * 1/1

```
int a=10;

int *p=&a;
printf("%d", *&a);
```

● A) 10 ✓

○ B) Address of a

○ C) Garbage

○ D) Error

✓ 45. A pointer variable can be used to — * 1/1

○ A) Store an address

○ B) Change value indirectly

○ C) Access array elements

● D) All of these ✓

✓ 46.What is the output? * 1/1

```
int a=5, b=10;

int *p=&a;

*p=*p + b;

printf("%d", a);
```

○ A) 5

○ B) 10

● C) 15 ✓

○ D) Garbage

✓ 47. A function can return — * 1/1

○ A) A value

○ B) A pointer

● C) Both A and B ✓

○ D) None

✓ 48. Which of these statements about pointer arrays is correct? * 1/1

○ A) Each element is a pointer

○ B) It holds addresses of variables

○ C) It can point to strings

● D) All of these ✓

✓ 49. What is the difference between array name and pointer variable? * 1/1

○ A) Array name is constant pointer

○ B) Pointer can change its address

○ C) Array name cannot change its address

● D) All of these ✓

✓ 50. Which of the following statements is TRUE? * 1/1

○ A) Pointer to void cannot be dereferenced directly

○ B) Pointer arithmetic cannot be done on void pointers

○ C) Pointers must be initialized before use

● D) All of the above ✓